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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/805,165	03/18/2004	Edgardo Costa Maianti	DID1047US	7387

9561 7590 01/23/2008  
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MINNEAPOLIS, MN 55402

EXAMINER
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CRAIG, PAULA L

ART UNIT	PAPER NUMBER
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3761

MAIL DATE	DELIVERY MODE
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01/23/2008

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

# Office Action Summary

Application No.

10/805,165

Applicant(s)

MAIANTI ET AL.

Examiner

Paula L. Craig

Art Unit

3761

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 11 September 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-5 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-5 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT, Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

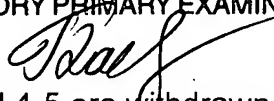
- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Response to Arguments*

1. In view of the appeal brief filed on September 11, 2007, PROSECUTION IS HEREBY REOPENED. New grounds of rejection are set forth below.
2. To avoid abandonment of the application, appellant must exercise one of the following two options:
  - (1) file a reply under 37 CFR 1.111 (if this Office action is non-final) or a reply under 37 CFR 1.113 (if this Office action is final); or,
  - (2) initiate a new appeal by filing a notice of appeal under 37 CFR 41.31 followed by an appeal brief under 37 CFR 41.37. The previously paid notice of appeal fee and appeal brief fee can be applied to the new appeal. If, however, the appeal fees set forth in 37 CFR 41.20 have been increased since they were previously paid, then appellant must pay the difference between the increased fees and the amount previously paid.
3. A Supervisory Patent Examiner (SPE) has approved of reopening prosecution by signing below:

TATYANA ZALUKAEVA  
SUPERVISORY PRIMARY EXAMINER


4. The double patenting rejections of Claims 1, 2, and 4-5 are withdrawn in light of the terminal disclaimers filed May 9, 2007. The rejections of Claims 6-10 are withdrawn as moot.

***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

6. Claims 1 and 4-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Panzani (5,039,482) in view of U.S. Patent No. 4,610,656 to Mortensen.

7. For Claim 1, Panzani teaches an integrated device for oxygenating and filtering blood flowing through an extracorporeal blood circuit (Abstract, Figure, col. 1, lines 5-21, col. 2, line 16 to col. 3, line 20). The device has a blood reservoir 1 having an inlet for receiving venous blood and an outlet for supplying venous blood (Figure, col. 2, lines 16-52; note that reservoir 1 receives blood from the operating field). Panzani teaches a blood pump 25 having an inlet connected to receive blood from the outlet of the blood reservoir 1 and an outlet (Figure, col. 1, lines 58-67, col. 3, lines 1-10 and 21-46). A heat exchanger 15 has a blood inlet 22 connected to receive venous blood from the outlet of the pump 25 and a blood outlet for supplying temperature controlled venous

blood, the blood inlet 22 being located below the blood outlet to define a blood flow path from a bottom of the heat exchanger to a top of the heat exchanger (blood outlet of heat exchanger 15 is at the lower end of oxygenator 14; Figure, col. 1, lines 58-67, col. 3, lines 1-10, and Claim 5). Panzani teaches an oxygenator 14 having an inlet connected to receive venous blood from the outlet of the heat exchanger 15 and an outlet for supplying oxygenated blood (Figure, col. 1, lines 58-64, col. 2, lines 53-61, col. 3, lines 1-10). Panzani teaches a housing (Figure, col. 2, lines 16-52, col. 3, lines 64-68). Panzani does not teach an arterial blood filter or a monolithic housing. However, arterial blood filters and monolithic housings are well known in the art. Mortensen confirms this and teaches a device for oxygenating and filtering blood through an extracorporeal blood circuit (Abstract, Figs. 1-4, col. 1, lines 6-17, col. 4, lines 20-62). Mortensen teaches an arterial blood filter 60 having an inlet connected to receive oxygenated blood from the outlet of the oxygenator 44 and an outlet for supplying filtered oxygenated blood (inlet of arterial blood filter includes tubes 54, 42, and 49 and reservoir 56; outlet includes arterial line 68; Figs. 1 and 4, col. 4, line 55 to col. 5, line 2, col. 5, line 2, and Claim 1). Mortensen teaches that the arterial blood filter 60 removes any accumulated particulates, gas microemboli, or air macroemboli from the blood before it is returned to the patient's arterial system (col. 4, line 55 to col. 5, line 2). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Panzani to include an arterial blood filter, as taught by Mortensen, to remove any accumulated particulates, gas microemboli, or air macroemboli from the blood before it is returned to the patient's arterial system, as taught by Mortensen. Mortensen also

teaches a monolithic housing including portions for the various components of the system (housing includes bottom part 12 and top cover 14; Figs. 1-2, col. 3, lines 41-67). Mortensen teaches that the monolithic housing contains the components and allows the entire system to be easily moved (col. 3, lines 40-67). It would have been obvious to one skilled in the art to modify Panzani to include a monolithic housing, as taught by Mortensen, to contain the components of the system and allow them to be easily moved, as taught by Mortensen.

8. For Claim 4, Panzani teaches the blood reservoir including a venous reservoir 1 and a cardiectomy reservoir 10 (Figure, col. 2, lines 16-47).

9. For Claim 5, Panzani teaches the housing including connection means for allowing removable connection of the first portion (reservoir 1 is detachable, Figure, col. 2, lines 48-52, col. 3, lines 56-63). Panzani does not teach the housing being a monolithic housing. Mortensen teaches a monolithic housing, as described above for Claim 1 in paragraph 7. It would have been obvious to one of ordinary skill in the art to modify Panzani to include a monolithic housing, for the same reasons as described above for Claim 1 in paragraph 7.

10. Claims 2-3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Panzani in view of Mortensen, and further in view of Izraelev (5,924,848).

11. For Claim 2, Panzani/Mortensen teach all the limitations of Claim 1, as described above in paragraph 7. Panzani teaches a pump 25 (Figure, col. 3, lines 1-10). Panzani does not expressly teach a centrifugal pump. However, centrifugal pumps are well

known in the art. Izraelev confirms this and teaches a centrifugal pump for pumping human blood (Figs. 1-3, col. 3, lines 52-59). Izraelev teaches that the pump is stable when the direction of the pump's axis of rotation is changed because the position of the housing is changed (col. 3, lines 52-59). Izraelev teaches the pump allows pumping of human blood without damaging blood components (col. 3, lines 28-44). It would have been obvious to one of ordinary skill in the art to modify Panzani to include a centrifugal pump, as taught by Izraelev, to allow for flexibility in positioning the pump and to allow pumping of human blood without damaging blood components, as taught by Izraelev.

12. For Claim 3, Panzani does not teach a centrifugal pump. Izraelev teaches a centrifugal pump for pumping human blood in which the axis of the pump may be horizontal or vertical (Figs. 1-3 and col. 3, lines 52-59). The pump of Izraelev is designed to be stable when the direction of the pump's axis of rotation is changed because the position of the housing is changed (col. 3, lines 52-59). It would have been obvious to one of ordinary skill in the art to modify Panzani to include the axis of the centrifugal pump being vertical or horizontal, as taught by Izraelev, to provide for flexibility in positioning the pump, as taught by Izraelev.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Paula L. Craig whose telephone number is (571) 272-5964. The examiner can normally be reached on M-F 8:30 AM to 4:00 PM.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tatyana Zalukaeva can be reached on (571) 272-1115. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Paula L Craig  
Examiner  
Art Unit 3761

PLC

TATYANA ZALUKAEVA  
SUPERVISORY PRIMARY EXAMINER

